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This document contains information
referring to Project OXCART

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OSA/DD (Attn: [REDACTED])								

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OXC 3657
Copy 5 of 9

9 AUG 1962

MEMORANDUM FOR: Assistant Director, OSA

SUBJECT: Inflight Navigation Aids (Maps and Charts)
for Project OXCART

1. The operational requirement for en route graphic navigation aids in the OXCART vehicle was thoroughly discussed and developed during a meeting 8 August 1962 at Project Headquarters. The purpose of this paper is to summarize the results of the committee investigations and to formalize the operational requirement.

2. A detailed report of the above meeting has been prepared as a separate document; however, it should be noted that the participants included:

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This meeting culminated several months' investigation during which field trips were made to Lockheed, [REDACTED], and [REDACTED].

3. The essential elements to recognize in this problem include the following:

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- a. Cockpit graphics must be supplied that will allow the planned route to be flown accurately.
- b. Additional coverage must be supplied that will allow navigation to a suitable alternate landing if necessary.
- c. Destruction capability must be inherent in any device considered to display the graphics.
- d. Inflight notations should be made without using pencil and paper.

4. The following recommended solutions are based in part on the fact that operational readiness training is programmed to begin during December 1962 and that product developing and testing must be completed at that time. Additionally, it has been established that sufficient aeronautical charts exist and no new graphics will be required from [REDACTED]. Three scales should be flight tested for suitability:

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- 1:5,000,000 - GNC (En route navigation)
- 1:3,000,000 - JNC (Photo line flying)
- 1:200,000 - Target Chart (INS fix point)

a. The first available device should be the "knee map panel", similar to the present IDEALIST approach. However, the paper stock should be of water soluble paper (Attachment #1) and the entire set of seven or eight panels should be stored in a container designed for rapid destruction of its contents (Attachment #2). Training can commence with presently available charts and "special paper" charts can be produced as soon as possible. IDEALIST requirements should be considered as well.

b. The "knee map panel" must be considered an interim fix because of the inconvenience involved in its use. The ultimate device recommended is through the use of the present viewfinder. It is strongly urged that action be initiated to develop a device to allow 35mm film strip pictures to be displayed on the viewfinder. Both Baird and Lockheed representatives feel this is feasible and obtainable in the near future (Attachment #3).

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c. A miniature tape recorder is recommended as the method to free the pilot from note taking in flight. This approach is endorsed by [REDACTED] and agreed to by the committee as a whole (Attachment #4).

5. Your concurrence is requested to allow the Development Division to initiate actions necessary for the development, procurement, and testing of the devices outlined above.

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Chief, Operations Division, OSA

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CONCUR:



JAMES A. CUNNINGHAM, JR.
Acting Assistant Director
(Special Activities)

Attachments - 4

- #1 - Knee Pad Panel
- #2 - Destruct Can
- #3 - 35mm Projection in Viewfinder
- #4 - Inflight Tape Recorder

cc: OSA/SEC
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